

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application; please amend the claims as follows:

Listing of Claims

1-8. (Cancelled)

9. (New) A method of producing a monodisperse pore-containing ion exchanger, comprising:

a) producing a noncrosslinked monodisperse seed polymer having a particle size of 0.5 to 20 μm by free-radical initiated polymerization of a monoethylenically unsaturated compound in the presence of a nonaqueous solvent;

b) adding to an aqueous dispersion of the noncrosslinked monodisperse seed polymer at least one monomer feed (A), said monomer feed (A) comprising

0.1 to 5% by weight of initiator and

95 to 99.9% by weight of monomer,

wherein the monomer feed (A) is allowed to swell into the seed and is polymerized at an elevated temperature, whereby a noncrosslinked monodisperse bead polymer results;

c) adding to an aqueous dispersion of the noncrosslinked monodisperse bead polymer at least one further monomer feed (B), said further monomer feed (B) comprising

0.1 to 3% by weight of initiator,

5 to 70% by weight of crosslinker,

15 to 84.9% by weight of monomer and

10 to 70% by weight of porogen,

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wherein the monomer feed (B) is allowed to swell into the seed and is polymerized at an elevated temperature, whereby a crosslinked monodisperse pore-containing bead polymer results, said crosslinked monodisperse pore-containing bead polymer having a particle size of 10 to 500 μm ; and

d) functionalizing the crosslinked monodisperse pore-containing bead polymer thereby forming the monodisperse pore-containing ion exchanger.

10. (New) The method according to Claim 9, wherein the adding step c) is performed in the presence of a dispersant.

11. (New) The method according to Claim 10, wherein the dispersant comprises at least one water-soluble cellulose derivative.

12. (New) A monodisperse pore-containing ion exchanger produced according to the method of Claim 9.

13. (New) The monodisperse pore-containing ion exchanger according to Claim 12, wherein said functionalizing step d) is carried out so that the monodisperse pore-containing ion exchanger is an anion exchanger.

14. (New) The monodisperse pore-containing ion exchanger according to Claim 12, wherein said functionalizing step d) is carried out so that the monodisperse pore-containing ion exchanger is a cation exchanger.

15. (New) A method of producing a monodisperse pore-containing bead polymer comprising:

a) producing a noncrosslinked monodisperse seed polymer having a particle size of 0.5 to 20 μm by free-radical initiated polymerization of a monoethylenically unsaturated compound in the presence of a nonaqueous solvent;

b) adding to an aqueous dispersion of the noncrosslinked monodisperse seed polymer at least one monomer feed (A), said monomer feed (A) comprising

0.1 to 5% by weight of initiator and

95 to 99.9% by weight of monomer

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wherein the monomer feed is allowed to swell into the seed and is polymerized at an elevated temperature, whereby a noncrosslinked monodisperse bead polymer results;

c) adding to an aqueous dispersion of the noncrosslinked monodisperse bead polymer a further monomer feed (B) comprising

0.1 to 3% by weight of initiator,

5 to 70% by weight of crosslinker,

15 to 84.9% by weight of monomer and

10 to 70% by weight of porogen,

wherein the monomer feed (B) is allowed to swell into the seed and is polymerized at elevated temperature, thereby forming the monodisperse pore-containing bead polymer, said monodisperse pore-containing bead polymer having a particle size of 10 to 500 μm .

16. (New) The method according to Claim 15, wherein the adding step c) is performed in the presence of a dispersant.

17. (New) The method according to Claim 16, wherein the dispersant comprises at least one water-soluble cellulose derivative.

18. (New) A monodisperse pore-containing bead polymer produced according to the method of Claim 15.

19. (New) A process for removing an anion from a substance or mixture, said substance or mixture being in liquid, solid, or gaseous form, comprising:

contacting the monodisperse pore-containing anion exchanger according to Claim 15 with the substance or mixture.

20. (New) A process for removing a cation from a substance or mixture, said substance or mixture being in liquid, solid, or gaseous form, comprising:

contacting the monodisperse pore-containing cation exchanger according to Claim 15 with the substance or mixture.

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